

**(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)**

**(19) World Intellectual Property  
Organization  
International Bureau**



**(43) International Publication Date**  
**6 May 2004 (06.05.2004)**

**PCT**

**(10) International Publication Number**  
**WO 2004/037728 A1**

**(51) International Patent Classification<sup>7</sup>:** C02F 1/48

(74) Agent: YOON, Hang-Shik; 9th Floor, BYC Bldg., 648-1, Yeoksam-dong, Gangnam-gu, 135-080 Seoul (KR).

**(21) International Application Number:**  
PCT/KR2003/002229

**(81) Designated States (national):** IN, JP, US.

**(22) International Filing Date:** 22 October 2003 (22.10.2003)

(84) Designated States (regional): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

(25) Filing Language: Korean

(26) Publication Language: English

**(30) Priority Data:**  
10-2002-0064599 22 October 2002 (22.10.2002) KR

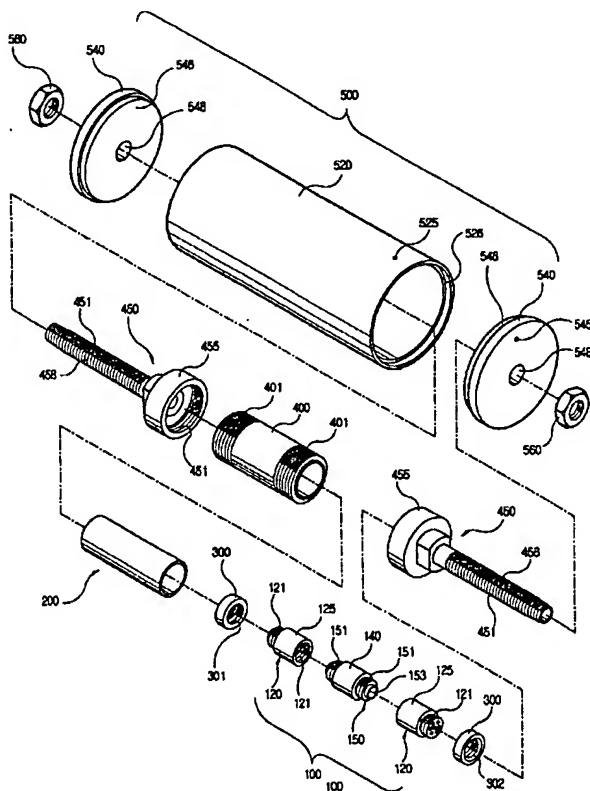
**Published:**  
— with international search report

**(71) Applicant and**

(72) Inventor: CHO, Tea-Hyun [KR/KR]; 745-95, Ua-dong 3ga, Deokjin-gu, 561-826 Jeonju-city, Jeonlabuk-do (KR).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**(54) Title: WATER TREATMENT APPARATUS USING ION HAVING DRAIN HOLE**



**(57) Abstract:** Disclosed is a water treatment apparatus capable of purifying water by means of ionization and activation of the water passing through tubular objects under an electric field and cleansing the interior of the tubular objects through which the water passes. The water treatment apparatus of the invention is preferably uses ions, and has a metal casing provided with at least one drain hole for naturally discharging condensed water, which is generated and accumulated between the metal casing and a housing, to the outside.

**WO 2004/037728 A1**